

# **EXHIBIT D**

## **PART 1**



UNITED STATES PATENT AND TRADEMARK OFFICE

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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

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**Transmittal of Communication to Third Party Requester  
*Inter Partes* Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,120.

PATENT NUMBER 6,210,293.

TECHNOLOGY CENTER 3999.

ART UNIT 3993.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.



## UNITED STATES PATENT AND TRADEMARK OFFICE

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CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000,120	01/17/06	6,210,293	

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EXAMINER

O'NEILL, M.

ART UNIT

PAPER

3993

DATE MAILED:

02/27/07

### INTER PARTES REEXAMINATION COMMUNICATION

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.

<b>OFFICE ACTION IN INTER PARTES REEXAMINATION</b>	Control N .	Patent Under Reexamination	
	95/000,120	6210293	
	Examiner	Art Unit	
	Michael O'Neill	3993	

-- Th MAILING DATE of this communication appears n th cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on \_\_\_\_\_

Third Party(ies) on \_\_\_\_\_

**RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:**

*For Patent Owner's Response:*

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

*For Third Party Requester's Comments on the Patent Owner Response:*

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

**All correspondence** relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

**PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1. ☒ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ \_\_\_\_\_

**PART II. SUMMARY OF ACTION:**

- 1a. ☒ Claims 1-8 are subject to reexamination.
- 1b. ☐ Claims \_\_\_\_\_ are not subject to reexamination.
2. ☐ Claims \_\_\_\_\_ have been canceled.
3. ☐ Claims \_\_\_\_\_ are confirmed. [Unamended patent claims]
4. ☐ Claims \_\_\_\_\_ are patentable. [Amended or new claims]
5. ☒ Claims 1-8 are rejected.
6. ☐ Claims \_\_\_\_\_ are objected to.
7. ☐ The drawings filed on \_\_\_\_\_ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on \_\_\_\_\_ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:
  - ☐ been received. ☐ not been received. ☐ been filed in Application/Control No \_\_\_\_\_
10. ☐ Other \_\_\_\_\_

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### **DETAILED ACTION**

This first Action on the merits is being mailed after the order granting reexamination.

#### ***Reexamination Procedures***

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be an Action Closing Prosecution (ACP), will be governed by 37 CFR 1.116(b) and (d), which will be strictly enforced.

#### ***Statutory Basis for Grounds of Rejections - 35 USC § 102 and 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

#### ***Third Party Requester's Grounds of Rejections***

##### ***Re. Claim 1***

**Ground #1.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

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**Ground #2.** In the alternative to Ground #1, the requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

**Ground #3.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

**Ground #4.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

**Ground #5.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #6.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #7.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 2*

**Ground #8.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #9.** In the alternative to Ground #8, the requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #10.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #11.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

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**Ground #12.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #13.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #14.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 3*

**Ground #15.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #16.** In the alternative to Ground #15, the requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #17.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #18.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #19.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #20.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

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**Ground #21.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 4*

**Ground #22.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #23.** In the alternative to Ground #22, the requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #24.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #25.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #26.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #27.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #28.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 5*

**Ground #29.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.



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**Ground #30.** In the alternative to Ground #29, the requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #31.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #32.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #33.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #34.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #35.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 6*

**Ground #36.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #37.** In the alternative to Ground #36, the requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #38.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

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**Ground #39.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #40.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #41.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #42.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 7*

**Ground #43.** The requester submits that claim 7 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

**Ground #44.** In the alternative to Ground #43, the requester submits that claim 7 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

**Ground #45.** The requester submits that claim 7 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

**Ground #46.** The requester submits that claim 7 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

**Ground #47.** The requester submits that claim 7 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

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**Ground #48.** The requester submits that claim 7 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #49.** The requester submits that claim 7 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 8*

**Ground #50.** The requester submits that claim 8 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

**Ground #51.** In the alternative to Ground #50, the requester submits that claim 8 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

**Ground #52.** The requester submits that claim 8 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

**Ground #53.** The requester submits that claim 8 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

**Ground #54.** The requester submits that claim 8 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #55.** The requester submits that claim 8 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

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**Ground #56.** The requester submits that claim 8 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Summary of Grounds Adopted vel non*

For Claim 1:

Adopted: 2-7

Not Adopted: 1

For Claim 2:

Adopted: 9-14

Not Adopted: 8

For Claim 3:

Adopted: 16-18

Not Adopted: 15 and 19-21

For Claim 4:

Adopted: 23-28

Not Adopted: 22

For Claim 5:

Adopted: 30-35

Not Adopted: 29

For Claim 6:

Adopted: 37-39

Not Adopted: 36 and 40-42

For Claim 7:

Adopted: 44-49

Not Adopted: 43

For Claim 8:

Adopted: 51-56

Not Adopted: 50

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In sum, Proposed Grounds 2-7, 9-14, 16-18, 23-28, 30-35, 37-39, 44-49 and 51-56 are

**Adopted** by the Examiner.

In sum, Proposed Grounds 1, 8, 15, 19-22, 29, 36, 40-43 and 50 are **Not Adopted** by the Examiner.

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*Summary of the Grounds of Rejections*

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 in view of Molitor et al., U.S. Pat. No. 4,274,637.

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 mentioning Molitor et al., U.S. Pat. No. 4,274,637 in view of Wu, U.S. Pat. No. 5,334,673, as evidenced by Exhibit C.

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 mentioning Molitor et al., U.S. Pat. No. 4,274,637 in view of Molitor et al., U.S. Pat. No. 4,674,751.

Claims 1, 2, 4, 5, 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 in view of Molitor et al., U.S. Pat. No. 4,274,637.

Claims 1, 2, 4, 5, 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 in view of Wu, U.S. Pat. No. 5,334,673.

Claims 1, 2, 4, 5, 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 in view of Molitor et al., U.S. Pat. No. 4,674,751.

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### **Proposed Third Party Requester's Rejections**

#### *Issue of Inherency*

Multiple proposed rejections that the third party requester submits are based on the inherent properties of the materials. In order to prove the inherent properties of these materials the requester has provided "product data sheets" for the following materials: SURLYN (Exhibit I) and ESTANE (Exhibit J). These "product data sheets" have publication dates later than the critical date of the claimed inventions. Also, the third party requester has provided other Exhibits to prove or evidence inherency, e.g. Exhibit C (description of a golf product performance characteristics); Exhibits G and L (patent owners admissions)

MPEP § 2124 lists exceptions to the rule that the publication date must precede the critical data of the claimed invention: "...facts [that] include the characteristics and properties of a material...". The Shore D hardness and flexural modulus are characteristics and properties of a material. Thus, it is appropriate to use these "product data sheets" to show such a universal fact as the inherent properties of a known material. Moreover, See also MPEP § 2112.01: "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)." And, "Products of identical chemical composition can not have mutually exclusive properties." "A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)."

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Re. Claim 1**Proposed Third Party Requester Rejection: Ground #1.**

The requester submits on pages 14-17 that claim 1 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

In the request on pages 14 through 17 the third party requester proposes that claim 1 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

**This rejection is not adopted.**

MPEP § 608.01(p) states that

[m]ere reference to another application, patent, or publication is not an incorporation of anything therein into the application containing such reference for the purpose of the disclosure required by 35 U.S.C. 112, first paragraph. *In re de Seversky*, 474 F.2d 671, 177 USPQ 144 (CCPA 1973). 37 CFR 1.57(b)(1) limits a proper incorporation by reference (except as provided in 37 CFR 1.57(a)) to instances only where the perfecting words "incorporated by reference" or the root of the words "incorporate" (e.g., incorporating, incorporated) and "reference" (e.g., referencing) appear. The requirement for specific root words will bring greater clarity to the record and provide a bright line test as to where something is being referred to is an incorporation by reference. The Office intends to treat references to documents that do not meet this "bright line" test as noncompliant incorporations by reference and may require correction pursuant to 37 CFR 1.57(g). If a reference to a document does not clearly indicate an intended incorporation by reference, examination will proceed as if no incorporation by reference statement has been made and the Office will not expend resources trying to determine if an incorporation by reference was intended. In addition to other requirements for an application, the referencing application must include an identification of the referenced patent, application, or publication. See 37 CFR 1.57(b)(2). Particular attention should be directed to specific portions of the referenced document where the subject matter being incorporated may be found.



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Thus, the reference to or the mentioning of another document does not confer an "incorporation by reference" of material especially "essential material" as defined in 37 CFR 1.57(c) which would be needed in this case to supply a basis for a rejection of the subject matter of this claimed invention, i.e. a reference must provide an enabling disclosure for all of the claimed structural features in the claim in order to anticipate the claim..

**Proposed Third Party Requester Rejection: Ground #2.**

In the alternative, the requester submits on pages 14-17 that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 1	Nesbitt (primary) with Molitor '637 (teaching)
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
a Shore D hardness of 60 or	Nesbitt: "[I]nner cover 14 of molded hard, high flexural

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more molded on said core,	<p>modulus resinous material such as type 1605 Surlyn® marketed by E.I DuPont de Nemours." (Nesbitt, col. 2, lines 36-38.)</p> <p><u>Per the '293 Patent</u>: "Type 1605 Surlyn® (now designated Surlyn® 8940)." ('293 patent, col. 2, lines 54-55.)</p> <p><u>Exhibit I</u>: DuPont Surlyn® Product Information: Surlyn® 8940 has a Shore D hardness of 65.</p>
said inner cover layer having a thickness of 0.100 to 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and	<p>"Reference is made to the application Ser. No. 155,658 of Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p> <p><u>Molitor '637</u>: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
an outer cover layer having	"An <b>outer</b> layer, ply, lamination or <b>cover</b> 16 ... is then remolded onto the inner ply or layer 14 ..." (Nesbitt, col. 2, ll. 43-47.)
a Shore D hardness of 64 or less molded on said inner cover layer,	<p><u>Nesbitt</u>: "Reference is made to application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60.)</p> <p><u>Molitor '637</u>: In examples 16 and 17 teaches an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p> <p>ESTANE 58133 has a <b>Shore D hardness of 55</b>, see Exhibit J (ESTANE Thermoplastic Polyurethane Product Data Sheet)</p> <p>See below for Shore D hardness of 64 or less limitation</p>

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	explanation.
said outer cover layer having a thickness of 0.010 to 0.070 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as Surlyn® resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, lines 19-23.)
said outer cover layer comprising a relatively soft polyurethane material.	<p><u>Nesbitt</u>: "Reference is made to application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60.)</p> <p><u>Molitor '637</u>: In examples 16 and 17 teaches an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p> <p><u>Exhibit J</u>: ESTANE 58133 is a Polyester-Type <b>Thermoplastic Polyurethane</b> (TPU Compound) which is a non-ionomeric thermoplastic elastomer.</p>

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873

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Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

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Also, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". **A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64.** Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Moreover, Molitor '637 teaches a list of materials that may adapted for use in the invention:

Homopolymeric and copolymeric substances, such as (1) vinyl resins formed by the polymerization of vinyl chloride or by the copolymerization of vinyl chloride with unsaturated polymerizable compounds, e.g., vinyl esters; (2) polyolefins such as polyethylene, polypropylene, polybutylene, transpolyisoprene, and the like, including copolymers of polyolefins; (3) polyurethanes such as are prepared from polyols and organic polyisocyanates; (4) polyamides such as polyhexamethylene; (5) polystyrene, high impact polystyrene, styrene acrylonitrile copolymer and ABS, which is acrylonitrile, butadiene styrene copolymer; (6) acrylic resins as exemplified by the copolymers of methylmethacrylate, acrylonitrile, and styrene, etc.; (7) thermoplastic rubbers such as the urethanes, copolymers of ethylene and propylene, and transpolyisoprene, block copolymers of styrene and cispolybutadiene, etc.; and (8) polyphenylene oxide resins, or a blend with high impact polystyrene known by the trade name "Noryl."

See Molitor '637, col. 5, ll. 33-50.

As the request recognizes on page 17:

Moreover, as recognized by the inventor himself, the particular materials used in the golf balls were not as important as the mechanical properties of those layers. (See Exhibit G at 334.) Furthermore, the relatively soft polyurethane material taught by Molitor '637 and the relatively soft ionomer inner cover layer taught by Nesbitt have similar mechanical properties including an identical Shore D hardness of 55 and a similar, relatively low flexural modulus of 25,000 and 14,000 psi, respectively. (Compare Exhibit I with Exhibit J.) This would have further suggested to those skilled in the art that the soft polymeric materials taught by Molitor, including, for example,

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the relatively soft polyurethane material would have been substitutable for the soft ionomer outer cover layer in one example taught by Nesbitt.

In addition, Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334.

Thus, because it appears that to one of ordinary skill in the art at the time the invention was created that the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

This rejection of claim 1 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #3.**

The requester submits on pages 18-20 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

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Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 1	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
a Shore D hardness of 60 or more molded on said core,	<u>Nesbitt</u> : "[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 Surlyn® marketed by E.I DuPont de Nemours." (Nesbitt, col. 2, lines 36-38.)  <u>Per the '293 Patent</u> : "Type 1605 Surlyn® (now designated Surlyn® 8940)." ('293 patent, col. 2, lines 54-55.)  <u>Exhibit I</u> : DuPont Surlyn® Product Information: Surlyn® 8940 has a Shore D hardness of 65.
said inner cover layer having a thickness of 0.100 to 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).

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<p>said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and</p>	<p>"Reference is made to the application Ser. No. 155,658 of Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p> <p><b>Molitor '637</b>: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
<p>an outer cover layer having</p>	<p>"An <b>outer</b> layer, ply, lamination or <b>cover</b> 16 ... is then remolded onto the inner play or layer 14 ..." (Nesbitt, col. 2, ll. 43-47.)</p>
<p>a Shore D hardness of 64 or less molded on said inner cover layer,</p>	<p><b>Nesbitt</b>: "Reference is made to application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60.)</p> <p><b>Molitor '637</b>: In examples 16 and 17 teaches an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p> <p>ESTANE 58133 has a <b>Shore D hardness of 55</b>, see Exhibit J (ESTANE Thermoplastic Polyurethane Product Data Sheet)</p> <p><b>Wu</b>: "Preferably, a golf ball is made in accordance with the present invention by molding a cover about a core wherein the cover is formed from a polyurethane composition comprising a polyurethane prepolymer and a slow-reacting polyamine curing agent or a difunctional glycol." (Wu, col. 3, ll. 62-66).</p> <p><b>Wu</b>: "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness of about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final</p>



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	<p>molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38).</p> <p>See also below for Shore D hardness of 64 or less limitation explanation.</p>
said outer cover layer having a thickness of 0.010 to 0.070 inches, and	<p>"It is found that the inner layer of hard, high flexural modulus resinous material such as Surlyn® resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, lines 19-23.)</p>
said outer cover layer comprising a relatively soft polyurethane material.	<p><u>Nesbitt</u>: "Reference is made to application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60.)</p> <p><u>Molitor '637</u>: In examples 16 and 17 teaches an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p> <p><u>Exhibit J</u>: ESTANE 58133 is a Polyester-Type <b>Thermoplastic Polyurethane</b> (TPU Compound) which is a non-ionomeric thermoplastic elastomer.</p> <p><u>Wu</u>: "[t]he present invention is a golf ball product made from a polyurethane prepolymer cured with a slow-reacting curing agent selected from the group of slow-reacting polyamine curing agents or difunctional glycols. The term "golf ball product" as used in the specification and claims means a cover, a core, a center or a one-piece golf ball. The cover of a golf ball made in accordance with the present invention has been found to have good shear resistance, cut resistance, durability and resiliency. <b>Preferably, the polyurethane composition of the present invention is used to make the cover of a golf ball.</b>" (Wu, col. 2, ll. 33-44).</p>

As mentioned above, Nesbitt mentioning Molitor '637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN

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covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; 5,334,673; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of

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providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 1 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #4.**

The requester submits on pages 20-21 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al., U.S. Patent No. 4,674,751 (Molitor '751).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 1	Nesbitt mentioning Molitor '637
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly

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	flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
a Shore D hardness of 60 or more molded on said core,	<p><u>Nesbitt</u>: "[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 Surlyn® marketed by E.I DuPont de Nemours." (Nesbitt, col. 2, lines 36-38.)</p> <p><u>Per the '293 Patent</u>: "Type 1605 Surlyn® (now designated Surlyn® 8940)." ('293 patent, col. 2, lines 54-55.)</p> <p><u>Exhibit I</u>: DuPont Surlyn® Product Information: Surlyn® 8940 has a Shore D hardness of 65.</p>
said inner cover layer having a thickness of 0.100 to 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and	<p>"Reference is made to the application Ser. No. 155,658 of Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p> <p><u>Molitor '637</u>: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
an outer cover layer having	"An <b>outer</b> layer, ply, lamination or <b>cover</b> 16 ... is then remolded onto the inner play or layer 14 ..." (Nesbitt, col. 2, ll. 43-47.)
a Shore D hardness of 64 or less molded on said inner cover layer,	<p><u>Nesbitt</u>: "Reference is made to application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60.)</p> <p><u>Molitor '637</u>: In examples 16 and 17 teaches an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p>

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	<p>ESTANE 58133 has a <b>Shore D hardness of 55</b>, see Exhibit J (ESTANE Thermoplastic Polyurethane Product Data Sheet)</p> <p>See below for Shore D hardness of 64 or less limitation explanation.</p>
said outer cover layer having a thickness of 0.010 to 0.070 inches, and	<p>"It is found that the inner layer of hard, high flexural modulus resinous material such as Surlyn® resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, lines 19-23.)</p>
said outer cover layer comprising a relatively soft polyurethane material.	<p><u>Nesbitt</u>: "Reference is made to application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60.)</p> <p><u>Molitor '637</u>: In examples 16 and 17 teaches an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p> <p><u>Exhibit J</u>: ESTANE 58133 is a Polyester-Type <b>Thermoplastic Polyurethane</b> (TPU Compound) which is a non-ionomeric thermoplastic elastomer.</p>

As shown above in the claim chart, Nesbitt mentioning Molitor '673 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core **a cover having a shore C hardness less than 85**, preferably 70-80, and most preferably 72-76. The novel **cover of the golf ball** of the invention is made of a composition comprising a blend of (1) **a thermoplastic urethane having a shore A hardness less than 95** and (2) **an ionomer having a shore D hardness greater than 55**.

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

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The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt**, and other balls have non-wound cores.

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

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As stated in the request on page 21

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 1 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### **Proposed Third Party Requester Rejection: Ground #5.**

The requester submits on pages 22-25 that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests the claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard

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	<p>inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p> <p>"Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)</p>								
an inner cover layer having	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)								
a Shore D hardness of 60 or more molded on said core,	See below with respect to Shore D hardness.								
said inner cover layer having a thickness of 0.100 to 0.010 inches,	<p>"The <b>thickness of the inner layer</b> can be within the range of about 0.0250 to 0.2875 inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40)</p> <p>"The preferred dimensions are ... and <b>inner layer thickness of 0.037 inch...</b>" (Proudfit, col. 7, ll. 43-44)</p>								
said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and	<p>"The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <caption>TABLE 6</caption> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surllyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surllyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surllyn 8940	75%	Zinc- Surllyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surllyn 8940	75%								
Zinc- Surllyn 9910	25%								
an outer cover layer having	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)								
a Shore D hardness of 64 or less	"...an outer layer of soft material such as balata or a blend of								



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molded on said inner cover layer,	balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.
said outer cover layer having a thickness of 0.010 to 0.070 inches, and	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)
said outer cover layer comprising a relatively soft polyurethane material.	"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see

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Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Veron 230 XL)	2.50
Total	160.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 25, ll. 7-15, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost

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effectiveness; user acceptance of performance (similar "click" and "feel" to balata) of the golf ball product made from those materials.

The request on page 25, ll. 1-21, explains why one of ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor '637 for the outer cover layer disclosed in Proudfit:

Moreover, as recognized by the inventor himself, the particular materials used in the golf balls were not as important as the mechanical properties of those materials. (See Exhibit G at 334.) Because those skilled in the art would look to the mechanical properties of the materials when determining whether certain materials can be substituted for one another, those skilled in the art would recognize that the Estane polyurethane taught by Molitor '637 (having a flexural modulus of about 25,000 psi) and the polymeric outer cover layer material of Proudfit (which has a modulus of between 20,000 and 25,000 psi) would have been substitutable for one another. (Compare Exhibit J with Proudfit, col. 6, lines 28-31.) This would have further suggested to those skilled in the art that the soft polymeric materials taught by Molitor '637, including, for example, the relatively soft, low modulus polyurethane material of Molitor '637 would have been substitutable for the soft polymeric outer cover layer as taught by Proudfit.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the balata-based outer cover layer of Proudfit to include the polyurethane outer cover layer of Molitor '637 because polyurethane was a well known substitute to balata and gives a number of advantages over balata as would have been readily appreciated by those skilled in the art. These advantages include: (1) improved processability; (2) improved durability when compared to balata; (3) cost-effectiveness when compared to balata; and (4) having a good "click" and "feel." ... All of this would have led one of ordinary skill in the art to replace the soft, low modulus balata-based outer cover layer of Proudfit with the soft, low modulus polyurethane outer cover layer material of Molitor '637 at the time of the alleged invention.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 25, ll. 1-21.

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This rejection of claim 1 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #6.**

The requester submits on pages 22-25 that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Wu.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests the claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This <b>invention relates to golf balls</b> , and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p> <p>"Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)</p>
an inner cover layer having	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively</b>

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	<b>hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.</b> (Proudfit, col. 7, ll. 21-24)										
a Shore D hardness of 60 or more molded on said core,	See below with respect to Shore D hardness.										
said inner cover layer having a thickness of 0.100 to 0.010 inches,	<p>"The <b>thickness of the inner layer</b> can be within the range of <b>about 0.0250 to 0.2875</b> inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40)</p> <p>"The preferred dimensions are ... and <b>inner layer thickness of 0.037 inch...</b>" (Proudfit, col. 7, ll. 43-44)</p>										
said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and	<p>"The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <tr> <th colspan="2">TABLE 6</th></tr> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> <tr> <td>Sodium- Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlin 9910</td><td>25%</td></tr> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	TABLE 6		Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlin 8940	75%	Zinc- Surlin 9910	25%
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Composition of Inner Layer of Cover (Parts by Weight)											
Ionomer Type	Blend Ratio										
Sodium- Surlin 8940	75%										
Zinc- Surlin 9910	25%										
an outer cover layer having	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12</b> which comprises a relatively hard inner layer 13 of one or more ionomer resins and a <b>relatively soft outer layer 14 of polymeric material.</b> " (Proudfit, col. 7, ll. 21-24)										
a Shore D hardness of 64 or less molded on said inner cover layer,	"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.										
said outer cover layer having a thickness of 0.010 to 0.070 inches, and	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)										
said outer cover layer comprising a relatively soft polyurethane material.	"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)										

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As expressed in the request on page 26 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Poly(isoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	33.00
Peroxide (Varox 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). The next step in golf ball cover technology to overcome the problems with balata was the use of SURLYN as an outer cover. However, as described in the request on page 26 Wu teaches the problem with SURLYN as a outer cover on a golf ball.

**The problem with SURLYN covered golf balls ... is that they lack the "click" and "feel" which golfers had become accustomed to with balata. "Click" is the sound when the ball is hit by a golf club and "feel" is the overall sensation imparted to the golfer when the ball is hit.**

It has been proposed to employ polyurethane as a cover stock for golf balls because, like SURLYN, it has a relatively low price compared to balata and provides superior cut resistance over balata. **However, unlike SURLYN covered golf balls, polyurethane-covered golf balls can be made to have the "click" and "feel" of balata.**

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(Wu col. 1, ll. 36-46 (emphasis added)).

As explained in the request on page 26 through page 27 those skilled in the art at the time the claimed invention was made were more critical of the mechanical properties of the materials that constructed the layers which impacted the performance of the golf ball more than the materials themselves. See Exhibit G. As identified above Proudfit lacks disclosing polyurethane as the outer cover layer. In analogous golf ball device, Wu's polyurethane material inherently has a flexural modulus of 23,000 psi as averred within the Rule 132 Declaration of Jeffrey L. Dalton at para. 7. Proudfit's outer cover layer material is disclosed as having a flexural modulus of between about 20,000 psi and 25,000 psi. (Proudfit, col. 6, ll. 28-31) Thus, Wu's cover material's flexural modulus falls within the range of Proudfit's cover material. Moreover, Wu's polyurethane material inherently has a Shore D hardness of about 58. See Decl. of Dalton at para. 6. Thus, as evidenced by this declaration, Wu's polyurethane material falls within the claimed range of the outer layer material have a Shore D hardness of less than 64.

Thus, as pointed out in the request on page 27, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute Wu's polyurethane golf ball cover material for Proudfit's balata-blend cover material for the advantages described in this part of the request which is quoted below:

Based on Wu's teachings, one of ordinary skill in the art would have recognized the substitutability of soft polyurethane for soft balata-based materials and the advantages of making such a substitution. These advantages include (1) low price compared to balata; (2) better cut resistance when compared to balata; and (3) a "click" and "feel" that is similar to balata. Moreover, the replacing the balata-material taught by Proudfit would have been obvious to those skilled in the art prior to November 9, 1995 because before that time, the Titleist Professional<sup>TM</sup> golf ball, which had used Wu's polyurethane material, had replaced balata-covered balls as the market leader. (See Decl. of Jeffrey L. Dalton at ¶¶ 3-4.) Therefore, it would have been obvious to one of ordinary skill in the art at the time of the alleged invention to modify Proudfit's golf ball

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by replacing the soft balata-based outer cover layer with an outer cover layer made of soft polyurethane material because Wu's polyurethane material has similar mechanical properties and provides numerous advantages over balata while exhibiting the "click" and "feel" of balata.

This rejection of claim 1 based on Proudfit in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### **Proposed Third Party Requester Rejection: Ground #7.**

The requester submits on pages 27-29 that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests the claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This <b>invention relates to golf balls</b> , and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p> <p>"Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core</p>



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	was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)						
an inner cover layer having	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.</b> " (Proudfit, col. 7, ll. 21-24)						
a Shore D hardness of 60 or more molded on said core,	See below with respect to Shore D hardness.						
said inner cover layer having a thickness of 0.100 to 0.010 inches,	<p>"The <b>thickness of the inner layer</b> can be within the range of <b>about 0.0250 to 0.2875 inch</b> to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40)</p> <p>"The preferred dimensions are ... and <b>inner layer thickness of 0.037 inch...</b>" (Proudfit, col. 7, ll. 43-44)</p>						
said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and	<p>"The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <caption>TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)</caption> <thead> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium-Surllyn 8940</td><td>75%</td></tr> <tr> <td>Zinc-Surllyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium-Surllyn 8940	75%	Zinc-Surllyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surllyn 8940	75%						
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an outer cover layer having	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.</b> " (Proudfit, col. 7, ll. 21-24)						
a Shore D hardness of 64 or less molded on said inner cover layer,	"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.						
said outer cover layer having a thickness of 0.010 to 0.070	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of						

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inches, and	1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch....” (Proudfit, col. 7, ll. 40-46)
said outer cover layer comprising a relatively soft polyurethane material.	“...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers.” (Proudfit, col. 5, ll. 15-17)

As expressed in the request on page 27 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varon 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner:

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same “click” and “feel” golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

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It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a **cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76.** The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a **thermoplastic urethane having a shore A hardness less than 95** and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. **The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76.** Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.**

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfit, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE

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bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request spanning pages 28-29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

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This rejection of claim 1 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Re. Claim 2

**Proposed Third Party Requester Rejection: Ground #8.**

The requester submits on pages 29-30 that claim 2 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

This rejection is not adopted for the reasons given in response to Proposed Ground #1 above.

**Proposed Third Party Requester Rejection: Ground #9.**

In the alternative, the requester submits on page 30 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations.

Claim 2	Nesbitt
The golf ball according to claim 1,	See above.
wherein said golf ball has an	"According to the United States Golf Association Rules, the

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overall diameter of 1.680 inches or more.	<p>minimum diameter prescribed for a golf ball is 1.680 inches ...." (Nesbitt, col. 2, lines 50-52.)</p> <p>"This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, lines 34-38.)</p>
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This rejection of claim 2 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #10.**

The requester submits on page 30 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations.

Claim 2	Nesbitt
The golf ball according to claim 1,	See above.
wherein said golf ball has an overall diameter of 1.680 inches or more.	<p>"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ...." (Nesbitt, col. 2, lines 50-52.)</p> <p>"This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a</p>

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	dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin .... " (Nesbitt, col. 3, lines 34-38.)
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This rejection of claim 2 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #11.**

The requester submits on page 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al., U.S. Patent No. 4,674,751 (Molitor '751).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations.

Claim 2	Nesbitt
The golf ball according to claim 1,	See above.
wherein said golf ball has an overall diameter of 1.680 inches or more.	<p>"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ...." (Nesbitt, col. 2, lines 50-52.)</p> <p>"This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin .... " (Nesbitt, col. 3, lines 34-38.)</p>

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This rejection of claim 2 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #12.**

The requester submits on pages 30-31 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests the claim limitations.

Claim 2	Proudfit
The golf ball according to claim 1,	See above.
wherein said golf ball has an overall diameter of 1.680 inches or more.	"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch), and an outer layer thickness of 0.0525 inch (total ball diameter of 1.680 inch)." (Proudfit, col. 7, lines 43-47.)

This rejection of claim 2 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #13.**



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The requester submits on pages 30-31 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Wu.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests the claim limitations.

Claim 2	Proudfit
The golf ball according to claim 1,	See above.
wherein said golf ball has an overall diameter of 1.680 inches or more.	"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch), and an outer layer thickness of 0.0525 inch (total ball diameter of 1.680 inch)." (Proudfit, col. 7, lines 43-47.)

This rejection of claim 2 based on Proudfit in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #14.**

The requester submits on pages 30-31 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor, U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

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Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests the claim limitations.

Claim 2	Proudfit
The golf ball according to claim 1,	See above.
wherein said golf ball has an overall diameter of 1.680 inches or more.	"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch), and an outer layer thickness of 0.0525 inch (total ball diameter of 1.680 inch)." (Proudfit, col. 7, lines 43-47.)

This rejection of claim 2 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Re. Claim 3

#### **Proposed Third Party Requester Rejection: Ground #15.**

The requester submits on pages 31-32 that claim 3 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

This rejection is not adopted for the reasons given in response to Proposed Ground #1 above.

#### **Proposed Third Party Requester Rejection: Ground #16.**

In the alternative, the requester submits on page 32 that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637).

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Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations.

Claim 3	Nesbitt
The golf ball according to claim 1,	See above.
wherein said inner cover layer has a thickness of about 0.050 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as Surlyn® resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, lines 19-23.)
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as Surlyn type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, lines 22-25.)  "The outer layer of the soft resin is of a thickness of 0.0575 inches." (Nesbitt, col. 3, lines 39-40.)
and said golf ball has an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ...." (Nesbitt, col. 2, lines 50-52.)  "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, lines 34-38.)

This rejection of claim 3 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #17.**

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The requester submits on page 32 that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations.

Claim 3	Nesbitt
The golf ball according to claim 1,	See above.
wherein said inner cover layer has a thickness of about 0.050 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as Surlyn® resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, lines 19-23.)
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as Surlyn type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, lines 22-25.)  "The outer layer of the soft resin is of a thickness of 0.0575 inches." (Nesbitt, col. 3, lines 39-40.)
and said golf ball has an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ...." (Nesbitt, col. 2, lines 50-52.)  "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, lines 34-38.)

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This rejection of claim 3 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #18.**

The requester submits on page 32 that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations.

Claim 3	Nesbitt
The golf ball according to claim 1,	See above.
wherein said inner cover layer has a thickness of about 0.050 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as Surlyn® resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, lines 19-23.)
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as Surlyn type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, lines 22-25.)  "The outer layer of the soft resin is of a thickness of 0.0575 inches." (Nesbitt, col. 3, lines 39-40.)
and said golf ball has an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ...." (Nesbitt, col. 2, lines 50-52.)

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	"This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, lines 34-38.)
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This rejection of claim 3 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejections: Ground #19-21.**

The requester submits on pages 32-33 that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637); Wu, U.S. Pat. No. 5,334,673 (Wu); or Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

**These rejections are not adopted for the reasons given in Order Granting Reexamination, dated 04/07/2006, at paragraph #23, which is incorporated herein.**

Re. Claim 4

**Proposed Third Party Requester Rejection: Ground #22.**

The requester submits on pages 34-38 that claim 4 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

**This rejection is not adopted for the reasons given in response to Proposed Ground #1 above.**

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**Proposed Third Party Requester Rejection: Ground #23.**

In the alternative, the requester submits on pages 34-48 that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al. U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 4	Nesbitt mentioning Molitor '637
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2.)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, lines 31-34.)
an inner cover layer having	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, lines 31-34.)
Shore D hardness of about 60 or more molded over said spherical core,	<p>"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 Surlyn® marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, lines 36-38.)</p> <p>"[A] center or core 12 ... is molded with a layer of hard, high modulus Surlyn resin, such as Surlyn type 1605..." (Nesbitt, col. 3, lines 27-29.)</p> <p><u>Exhibit I: DuPont Surlyn Product Information: Surlyn® 8940 (formerly 1605 (see '293 patent, col. 2, lines 54-55)) has a Shore D hardness of 65.</u></p>

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said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	<p>"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61).</p> <p><b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
having a modulus of from about 15,000 to about 70,000 psi; and	See below.
an outer cover layer having	<p>"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, lines 43-47.)</p> <p><b>Nesbitt:</b> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p>
a Shore D hardness of about 64 or less	<p><b>Molitor '637:</b> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60)</p> <p>ESTANE 58133 has a <b>Shore D hardness of 55</b>, see <u>Exhibit J</u> (ESTANE Thermoplastic Polyurethane Product Data Sheet)</p> <p>Also see below why this cover material has inherently a Shore D hardness of 55.</p>
disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<p>"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, lines 43-47.)</p> <p>"[T]he outer layer or cover 16 being of dimpled</p>



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	configuration ...." (Nesbitt, col. 2, lines 48-49; Fig. 2.)
said outer cover layer comprising polyurethane based material.	<p><b>Nesbitt:</b> "Reference is made to the application Set. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 and 16." (Nesbitt, col. 3, lines 54-60.)</p> <p><b>Molitor '637:</b> Teaches cover materials including "polyurethanes such as are prepared from polyols and organic polyisocyanates"; specifically Estane 58133 thermoplastic polyurethane. (Molitor '637, col. 5, lines 39-41; col. 18, lines 31-59 (examples 16 and 17).)</p> <p><b>Exhibit J:</b> ESTANE 58133 is a Polyester-Type <b>Thermoplastic Polyurethane</b> (TPU Compound) which is a non-ionomeric thermoplastic elastomer.</p>

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873

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Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Moreover, Molitor '637 teaches a list of materials that may adapted for use in the invention:

Homopolymeric and copolymeric substances, such as (1) vinyl resins formed by the polymerization of vinyl chloride or by the copolymerization of vinyl chloride with unsaturated polymerizable compounds, e.g., vinyl esters; (2) polyolefins such as polyethylene, polypropylene, polybutylene, transpolyisoprene, and the like, including copolymers of polyolefins; (3) polyurethanes such as are prepared from polyols and organic polyisocyanates; (4) polyamides such as polyhexamethylene; (5) polystyrene, high impact polystyrene, styrene acrylonitrile copolymer and ABS, which is acrylonitrile, butadiene styrene copolymer; (6) acrylic resins as exemplified by the copolymers of methylmethacrylate, acrylonitrile, and styrene, etc.; (7) thermoplastic rubbers such as the urethanes, copolymers of ethylene and propylene, and transpolyisoprene, block copolymers of styrene and

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cispolybutadiene, etc.; and (8) polyphenylene oxide resins, or a blend with high impact polystyrene known by the trade name "Noryl."

See Molitor '637, col. 5, ll. 33-50.

In addition, Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334.

Thus, because it appears that to one of ordinary skill in the art at the time the invention was created that the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

This rejection of claim 4 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #24.**

The requester submits on pages 38-40 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

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Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 4	Nesbitt mentioning Molitor '637 with Wu (teaching)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2.)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, lines 31-34.)
an inner cover layer having	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, lines 31-34.)
Shore D hardness of about 60 or more molded over said spherical core,	<p>"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 Surlyn® marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, lines 36-38.)</p> <p>"[A] center or core 12 ... is molded with a layer of hard, high modulus Surlyn resin, such as Surlyn type 1605..." (Nesbitt, col. 3, lines 27-29.)</p> <p><u>Exhibit I: DuPont Surlyn Product Information: Surlyn® 8940 (formerly 1605 (see '293 patent, col. 2, lines 54-55)) has a Shore D hardness of 65.</u></p>
said inner cover layer comprising an ionomeric resin including no	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637

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more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	<p>which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61).</p> <p><b>Molitor '637</b>: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
having a modulus of from about 15,000 to about 70,000 psi; and	See below.
an outer cover layer having	<p>"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, lines 43-47.)</p> <p><b>Nesbitt</b>: "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p> <p><b>Wu</b>: "Preferably, a golf ball is made in accordance with the present invention by molding a cover about a core wherein the cover is formed from a polyurethane composition comprising a polyurethane prepolymer and a slow-reacting polyamine curing agent or a difunctional glycol." (Wu, col. 3, ll. 62-66.)</p>
a Shore D hardness of about 64 or less	<p><b>Molitor '637</b>: Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60)</p> <p>ESTANE 58133 has a <b>Shore D hardness of 55</b>, see <u>Exhibit J</u> (ESTANE Thermoplastic Polyurethane Product Data Sheet)</p> <p>Also see below why this cover material has inherently a Shore D hardness of 55.</p> <p><b>Wu</b>: "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, <i>inter alia</i>, the time, temperature, type of</p>

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	<p>curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness of about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38.)</p> <p>See below for more explanation of how Wu teaches and/or suggests the Shore D hardness of 64 or less limitation explanation.</p>
disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<p>"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, lines 43-47.)</p> <p>"[T]he outer layer or cover 16 being of dimpled configuration ...." (Nesbitt, col. 2, lines 48-49; Fig. 2.)</p>
said outer cover layer comprising polyurethane based material.	<p><b>Nesbitt:</b> "Reference is made to the application Set. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 and 16." (Nesbitt, col. 3, lines 54-60.)</p> <p><b>Molitor '637:</b> Teaches cover materials including "polyurethanes such as are prepared from polyols and organic polyisocyanates"; specifically Estane 58133 thermoplastic polyurethane. (Molitor '637, col. 5, lines 39-41; col. 18, lines 31-59 (examples 16 and 17).)</p> <p><b>Exhibit J:</b> ESTANE 58133 is a Polyester-Type Thermoplastic Polyurethane (TPU Compound) which is a non-ionomeric thermoplastic elastomer.</p> <p><b>Wu:</b> "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, <i>inter alia</i>, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness of about 10D to 30D, Shore D hardness for the</p>

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	cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention, More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38.)
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As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

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As mentioned above, Nesbitt mentioning Molitor '637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; 5,334,673; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in



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the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 4 based on Nesbitt mentioning Molitor '637 in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

**Proposed Third Party Requester Rejection: Ground #25.**

The requester submits on pages 40-42 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al., U.S. Patent No. 4,674,751 (Molitor '751).

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 4	Nesbitt mentioning Molitor '637
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2.)

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a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, lines 31-34.)
an inner cover layer having	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, lines 31-34.)
Shore D hardness of about 60 or more molded over said spherical core,	<p>"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 Surlyn® marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, lines 36-38.)</p> <p>"[A] center or core 12 ... is molded with a layer of hard, high modulus Surlyn resin, such as Surlyn type 1605..." (Nesbitt, col. 3, lines 27-29.)</p> <p><u>Exhibit I: DuPont Surlyn Product Information: Surlyn® 8940 (formerly 1605 (see '293 patent, col. 2, lines 54-55)) has a Shore D hardness of 65.</u></p>
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	<p>"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61).</p> <p><u><b>Molitor '637:</b></u> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
having a modulus of from about 15,000 to about 70,000 psi; and	See below.
an outer cover layer having	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, lines 43-47.)